



Governor's Solar Advisory Task Force

Date/Time: Thursday, May 31, 2012, 2:00 p.m. - 4:00 p.m.

Location: Snell & Wilmer, 400 E Van Buren, Phoenix/19th Floor.

Co-Chairs: Leisa Brug, Director, Governor's Office of Energy Policy
Glenn Hamer, CEO, Arizona Chamber of Commerce & Industry

Invitees: Appointed members of the Task Force & Guests
Maria Baier, State Lands Commissioner
Kevin Kinsall, Natural Resources Policy Advisor

Members Present: Brad Albert, APS; Franc Del Fosse, Snell & Wilmer LLP Law Offices; Charles B. Duckworth, SRP; Herb Hayden, Southwest Solar; Allison Hoskins-Suriano, Kennedy Partners; David Hutchens, Unisource Tucson Electric Power; George Seitts, Rose Law Group, PC; James Strock, Serve to Lead, Inc.; Robert Wanless, SOLON Corporation; Laurie Woodall, URS

Members Absent: John Blair, Sulphur Springs Valley Electric Cooperative, Inc.; Patrick James Graham, The Nature Conservancy; Kate Maracas, Abengoa Solar; David Martin, Associated General Contractors; Michael Neary, ARISEIA Arizona Chapter Solar Energy Industries Assn.; Sean M. Seitz, American Solar Electric; Polly Shaw, Suntech

Guests: Allison Bell, APS; Bud Annan, ASU; Harvey Bryan, ASU; Ian Calkins, Copper State Consulting Group; Gretchen Conger, Arizona Chamber of Commerce; Brendan Denker, ASU; Joe Downs, Merrill Lynch; Travis Ekenberg, Governor's Office of Energy Policy; Trisha Ekenberg, Governor's Office of Energy Policy; Giancarlo Estrada, KMLF; Katherine Gordon-Wheat, GES; Rene G. Guillen, Jr., League of Arizona Cities and Towns; Tom Headley, Strategic Solar Energy; Lon Huber, Suntech (attending for member Polly Shaw); Jamie Kern, ASU; Dimitrios Laloudakis, City of Phoenix; Jean Lasee, Change Catalyst Group; Jeffery Luth, ASU LeRoy Eyring Center for Solid State Science; Maren Mahoney, ASU Sandra Day O'Connor College of Law; Blaine Miller, Governor's Office of Energy Policy; Joe McGuirk, Sun Miner, LLC; Ben Montclair, IKOLOJI; Tim Owens, CleanSource Energy; Dr. Mike Pasqualetti, ASU Sandra Day O'Connor College of Law; Anne Reichman, ASU Global Institute of Sustainability; Bob Schmelzer, Az4Solar; Gary Smith, Jokako; Martin L. Shultz, BHFS; Kari Smith, SunPower Corporation; Paul Szewczykowski, Logan Simpson Design, Inc.; Carmine Tilghman, TEP

1. CALL TO ORDER

Leisa Brug Called the meeting to order at 2:19

2. APPROVAL OF MINUTES

Leisa Brug: Glenn Hamer is the new co-chair, as made public by the Governor's Press Release and word-of-mouth. He's got the solar background, but also he's got the business mind that is helpful also. Thank you to James Strock for being the previous co-chair, and here is a card of appreciation.

James Strock: I've been privileged to know Glenn Hamer for a long time and have seen his amazing leadership in many aspects of the solar industry and look forward to his leadership here.

Leisa Brug: Motion to approve the minutes from the previous meeting: all approve.

Glenn Hamer: Thank you for the opportunity to be in this role, and thank you to Jim for doing a terrific job. I would like for people to feel comfortable to approach me with ideas on ways you think we can move forward to achieve the Governor's goals of making Arizona the Solar Capitol of the World.

3. SPECIAL GUESTS: ASU: Energy Policy Innovation Council

Leisa Brug: I would like to introduce the team at 'EPIC', the Energy Policy Innovation Council. As an energy policy person I am relieved that this project has come together. I feel that everyone needs to know about this.

Mike Pasqualetti: The idea is to come up with one place you can go to find out about Energy Policy that affects solar energy in Arizona. EPIC – Energy Policy Innovation Council is that place you can go to find out about the policies at all levels – State, Federal, or national, but especially those effecting AZ and solar. It will provide briefs, Twitters, Facebook, and face-to-face briefings on energy policy that effects Arizona. Maren Mahoney is an attorney out of ASU and is working with us now, and we also have students as well as Kris Mayes working with us. Maren will show you and talk to you about the website.

Maren Mahoney: (website showing on screen) You are able to view resources here. The briefs are here and one was just posted regarding the California Renewable Energy Standard. You are able to view the portfolios for several different states including the Arizona Renewable Energy Standard and Tariff. There is a section regarding pending policies that are new or are being introduced, for example FERC Order 1000 and PACE financing. We have a clean energy calendar and we are hoping that this can be a comprehensive resource for all energy events going on around Arizona. We welcome any information you may have on upcoming events. If you have any events that would be of interest, email: energypolicy@asu.edu. The website address: energypolicy.asu.edu, Twitter name is: @ASUEnergyPolicy. We also have a 'Spotlight on Policymakers' section and currently we have Rep. Amanda Reeves for her work on HB 2830, the Energy and Water Savings Account. A post will be made to Twitter when a new briefing is posted, or a new 'Spotlight'.

Mike Pasqualetti: During legislative sessions, people like Maren sit in the hearings and post live to Twitter so that you can keep up with what is currently happening. We spoke with the Mayor of Clarkdale the other day who is the Chair of the Council of Cities and Towns in Arizona; we are going to be on their agenda for their upcoming meeting. We spoke to Mayor Smith in Mesa and getting on the agenda with the City of Phoenix as well. We have been working on this for 6 months now. We are trying to make this a convenient single place to stop. We are willing to go and talk to people one-on-one, and so we are working with Leisa to create what might be called Energy 101 which will be an energy education course for the legislators. We are also interested in helping with the development of the State Energy Plan. We had some funds come in to us and that is what we are using to make this a free service.

James Strock: Is there a link or other place that looks at what all states do?

Maren Mahoney: We are working at that right now. In fact we are compiling state comparisons, but we are focusing currently on similar demographics, Utah, New Mexico, Texas, etc.

Mike Pasqualetti: And particularly California, because what they do will effect what we do and how we do it. And we will be having discussions with them and talking about things like Arizona selling them electricity.

Mike Pasqualetti: That is a very good starting point. The idea of DSIRE website has all of the updated information for every state. What we are doing is trying to focus how that information might influence what we do in Arizona.

Laurie Woodall: Are your briefs going to have links to citations or source documents in them?

Mike Pasqualetti: Yes.

Laurie Woodall: Are you going to have a link to partners, or policy makers?

Maren Mahoney: Yes, we have them listed here.

Mike Pasqualetti: We have several lawyers on staff. Some of these things get very complicated, especially the tax related stuff, so we send it around and let many pairs of eyes review things before posting it. If you ever see anything that doesn't look correct or things that you would like us to add, please let us know. All of you people here at this meeting are the experts, so we'd love to hear from you.

Laurie Woodall: Have the utilities provided some information, references or any links for you?

Brad Albert: I think one of the good links from the utility site would be the Resource Plan. It is posted on the APS website so we can provide you a link.

Maren Mahoney: We are already working on a brief for that. It has gone through many revisions.

Tim Owens: Maren are you up for a collaboration with our organization to help reduce redundancy?

Maren Mahoney: Yes. I am familiar with your organization. I am on the Green Chamber with Michelle De Blasi.

Laurie Woodall: So the distinguishing aspect that you are focusing on is the policy briefs?

Maren Mahoney: It is the briefs which are communicating and reaching out to all of Arizona including small towns which don't have the energy experts sitting in their corner waiting to brief them on what a PACE policy is. So reaching out to all of Arizona is a distinguishing factor. We are also organizing the calendar and we feel that this is a factor that will set us apart from other organizations.

Leisa Brug: They will be helping with many things for our office. We have given them a list.

3. OLD BUSINESS

- Sunshot Solar Rooftop Challenge – Blaine Miller, GOEP

- a. Efforts to date *and* b. Introduction of AZ Sunshot team

Blaine Miller: We have some members of the team here, and they each have their own area of the project they are working on and they will briefly explain their part. Bruce Plenk from Tucson couldn't make it today. He is working with the southern part of the state on permitting, and he is currently working on an RFP to find a software developer to be able to bring the program to the communities to help with the online permitting process. We got our final contract this week and Leisa signed it today. Toni Buchard from SmartPower and Nicole Whitman from Flagstaff couldn't make it either. They are a blend of what all of the folks are doing. Let me introduce Harvey Bryan from ASU. He is working with his students and some other folks on his part of the project.

Harvey Bryan: Our piece is to look at the 'balance of system' - looking at the non-hardware costs which are not coming down as fast as the hardware costs and in some cases exceeds more than 50% of overall costs, which includes permitting, financing, interconnection and planning and zoning costs that are all involved in the design of the system. Those are the four areas we are looking at. We have a research component that ASU is leading on that is trying to assemble that data, as well as best practices nationally and locally to use as guidelines when we go and present to the various towns and cities throughout the state. We are home-rule state, so we do this through education and this can make for very effective changes. DOE is helping with webinars and have contracted with some of the national laboratories and the Interstate Renewable Energy Council to do some white papers on permitting; one on best practices of permitting just came out last week. Looking for connections to cities, especially groups like billing departments.

Dimitrios Laloudakis: There are many groups trying to help this balance of system costs come down, and here in Phoenix we have a lot of solar and currently are focusing on some large PPA projects. By the end of the year we will have around 12 MW of capacity in the city. We had a project called Solar Phoenix which is now Solar Phoenix 1, a partnership with NBAZ, \$25Mil in private capital was committed, which produced 3 MW of solar residential on about 450 homes across the valley. We just announced Solar Phoenix 2 at a huge event when the DOE Secretary was in town a few weeks ago. We are looking forward to another \$25Mil in private capital. Since the prices of solar are coming down we estimate it will touch 1000 homes and generate 5-6MW. This will be great for our state, our economy, and manufacturers. This is a model that other municipalities can use or use it in some form as a hybrid to make some progress in their area. Our Mayor has been very excited and involved and has been to several of the meetings.

Anne Reichman: I am working with Harvey helping to collect best practices from around the state. My part is basically education and outreach, so I will also work in conjunction with Toni Buchard to coordinate the stakeholder meetings. There will be various workshops to participate in and learn about best practices regarding the four areas we are working on. The network is currently 25 cities and towns; we are hoping to engage more as this is growing into a statewide network. We encourage the communities to participate even if they are not part of the network so they can keep up with knowing where the state is heading. We have our students involved in the process as well and are very excited to have them.

Leisa Brug: As the Task Force can see we have this in a very capable group of hands to take care of this rooftop type project. I am looking forward to giving the Governor our update this December because a lot has taken place in the last year.

Bud Annan: Is this different than Energize Phoenix?

Harvey Bryan: Yes, Energize Phoenix was only energy efficiency, not solar.

Bud Annan: What are the deliverables?

Blaine Miller: Our objectives include reducing the cost of permitting, and start with a few locations that can begin with implementation immediately, so we have some actual examples. When awarding Part 2 DOE will rate us on how well we have done, how much we have achieved, and possibly if our 'best practices' and online programs are applicable nationally. And when we are awarded Part 2 we will be able to implement the online program statewide in those communities that would like to participate.

- Permitting Subgroup – Rob Wanless, Chair

- a. Update *and* b. Next Steps

Rob Wanless: If you recall from the residential permitting reform effort we were looking at working on three metrics: containment of cost, turnaround time regardless of system size or jurisdiction, and requirement. We championed three cities, Scottsdale, Glendale and Peoria. They seem to have 'cut their teeth' on a lot of this already and had the most streamlined processes in place. We got a white paper out. Now we are going back to many of them to take a look at their commercial permit reform as building blocks for the white paper. When I was working with these groups in January I noticed that their commercial projects were similar to the residential ones but with a few tweaks here and there. So when I asked about what is your average time to turn a project around, and the answers were – It depends. Each of their permits for specific projects seemed to be custom, which seemed to go against what we were trying to do with the white paper. Then the Sunshot Initiative came in to the Energy Office and we met in February to give input to the Sunshot team, what we had done and next steps where they could go. There is a lot of 'it depends' compared to the 3kW-25kW systems residentially but we feel that there is a lot that can be done and we look forward to more meetings with them as we continue to move forward.

Blaine Miller: We met with Maricopa County yesterday and they are on-board, and it will be a good partnership. Their permitting process is good, but they are interested in looking at improvements. Maricopa County includes Gila Bend where they have very sizeable systems, so they have a lot of these areas covered already.

- Financing Subgroup—Franc del Fosse, Chair

- a. Update *and* b. Next Steps

Franc Del Fosse: We identified a deliverable: A history of how solar has been financed, and looking at the hurdles and looking at what is coming down the pipeline for residential solar, commercial, DG, and utility-scale. We had a good team to be on this subcommittee: representatives from utilities like Brad and commercial developers and residential integrators like Sean. I have been reaching out to people outside of our committee in industry groups that will help. I have an outline I will send out to our committee. As far as recommendations: Jim recommended we do some analysis, and I would like to solicit some ideas

on this. We would like to stay somewhat neutral, and just present facts, because we all have some different feelings.

Ben Montclair: I think it's great to bring together this group. I think it would be nice to have your editorial or brief on what you have discovered as a starting place, to have your conclusion would be good for people to possibly understand them better, at least as a starting place to possibly form their own opinion.

Franc Del Fosse: Since this is coming from the Governor's Solar Task Force, and a lot of the incentives are federally based and what we know is the facts that we can provide, however we can possibly make some recommendations on what we may see.

Lon Huber: Maybe ASU can help with some of that background?

Franc Del Fosse: Yes that would be good.

Leisa Brug: I agree with both of you (Franc and Ben). Is there some sort of middle ground we could meet at? But I agree with getting it all out there and analyzing where we've come from what's available and how it effects us. Can we maybe do something at the State level? Is there legislation that could be passed, or could we work through the ACA?

Franc Del Fosse: The incentives are driven by RPS and we realize that there would be more limited solar development if there weren't RPS's.

Leisa Brug: The ACA incentive package through the Competitiveness Package and the Renewable Energy Tax Credit and those types of things, we can make changes to those at the state. We don't have to rely on anybody or any RPS to do that. That's for business attraction. I was speaking with Don Cardon about some of the incentives shifting away from the manufacturing to the development side. To me as a policy person I see it as a little bit lopsided which is just my opinion. So we were talking about that and how would we structure that? So it is ok to go down those roads and consider those things.

Franc Del Fosse: We have been mostly focused on project financing. That is a different type of incentive, but I think that would be something good for us to look at because it would be more conducive to what we are doing here as a state.

Laurie Woodall: Will you be noting the recent initiative that the Department of Energy had with respect to securitizing instruments? I think it would be worth noting because we heard it from Secretary Chu and then we heard it from his Special Policy Advisor regarding that. But he is talking about going the markets to finance that so I think some of his suggestions might be of interest to your group.

Franc Del Fosse: Definitely.

Bud Annan: Mr. Caughman(sp?) is interested in what is going on in Arizona. He sent emails saying he really wants to get involved and to try to use Arizona as a case study.

Leisa Brug: When I met with Secretary Chu I was pleasantly surprised at his new-found love for markets because that is our future in what is going on. He was very open to that and going through the bond structure differently so that it would be less controversial.

Lon Huber: The Finance Subcommittee did hit on the commercial tax credit and we see little tweaks and other fine tuning and I'd love to work with you on reviewing tax credits and how they are carried forward. I've gotten some feedback from a few installers, and SEIA

- Transmission Subgroup—Laurie Woodall, Chair

- a. Update *and* b. Next Steps

Laurie Woodall: In the 2011 recommendations the Transmission Subcommittee is expected to complete a white paper on utility scale market segments including the potential exporting of renewable energy. After the Governor's Solar Energy Task Force meeting in April I met with a group of the major utilities to identify some of the more technical and regulatory issues that really require some expertise in approaching and they each have their own 'voluntary' assignments or deliverable. It was determined that it would be useful to put something together to identify the context in which all of this would be occurring. This will be a policy paper and will be provided to policy makers and it should be understandable. So we do have a draft outline of a section that explains transmission investment attractiveness; in other words, what makes the development of transmission possible and desirable. We

have also identified some market issues relating to whom would we be able to sell energy to on the export side so we have been following closely some of the activities in the California markets including California interconnecting through dynamic scheduling. The utilities will help us analyze the technical side. I will have an outline to present to the committee to review and they can give feedback.

4. NEW BUSINESS

- Idea House – overview

Travis Ekenberg: Just like the model homes in a new development, where you can take a tour to see their products, well this is the same kind of thing on a remodel-scale. The Idea House would be an existing home here in Arizona, preferably here in the valley, something with high exposure. We want to go through and retrofit it in an energy efficient way where we could showcase how to make it most efficient and to see some of the products being used. At the same time all of the safety issues would be address, including combustion safety and others. Since we feel that efficiency should be first before putting renewables onto a home so that you can make sure we have the correct size system. So we will then install solar afterwards to make sure we have the correct size system and remind and educate folks how to make sure they aren't over-sizing the PV system to an inefficient home. A good example in different terms would be putting a brand new A/C onto a leaking duct work system which would be very ineffective. We know there are a lot of remodels going on and the contractors just are not putting in those efficiency measures. We would like to expose this to the community and get a lot of foot traffic through this home to show people what is going on and what they can do their homes to save money. Then once they begin saving money from the efficient retrofits they can turn around and invest that into solar, wind, water or however they can apply it further. We are working with contractors in the field and financiers; however we are hitting the roadblock of finding the actual home. We would like it to be in a high traffic location and it will be a really neat project, and be a way to make a name for ourselves in both efficiency and renewables.

Leisa Brug: We are working to team up with Home Depot and Lowes.

Travis Ekenberg: We have spoken with one of the banks and it has been hard to find a home because the foreclosure market is turning over quickly and the banks are not holding onto the homes as long. The ideal size is ~1500 square-feet, block walls, or frame walls where we could do some acrylic view panels to view insulation in the walls or duct work through the ceiling, going through the whole building science book to show that the ROI of these measures are really worthwhile. It is a big education component.

Leisa Brug: Another aspect is that it needs to be in an area with sufficient parking, where it would not upset an HOA by hosting tours there so frequently during the first 90 days after completion, and maybe longer. We are working on the marketing strategy where we would like to target Realtors having their mixers there, elected officials and many other stakeholders.

Travis Ekenberg: We are also targeting appraisers because they are currently making home 'comps' to homes that have a \$25-\$50 monthly utility bill and comparing them to similar homes with \$400 monthly utility bills. These houses are not comparable because money has been invested into the home with the lower utility bills and they are more valuable.

Laurie Woodall: Have you thought about contacting ADOT for condemned homes that are no longer needed?

Travis Ekenberg: No. Thank you very much, that is a good idea. We would need the home for a minimum of 90 days, but upwards of 6 months-1 year.

- Collaboration with Arizona Energy Consortium

Leisa Brug: I have been meeting with them and recently had a meeting that Rob was at with me. We had a reasonably large group together and updated each other on what each of us were doing and looking for opportunities to work together. Rob suggested a master database to include all of these groups and the initiatives they are working on. There are a lot of partnerships to be made, and no reinventing the wheel. There were a few measures that overlapped, for example the Energy Efficiency team is going to the Consortium tomorrow to present on energy efficiency, and the Energy Efficiency team at the Consortium

didn't even know they had that resource available.

5. COMMENTS/ANNOUNCEMENTS

No comments

6. PUBLIC COMMENTS

Bud Annan: Solar Summit 3, October 8 and 9, a conference by tour busses, going to various places that are considered real change agents, such as the battery storage at Chase Field, what is new/cutting edge that can change the way we think about solar. Then we will hear back from the tour groups when they return to hear what they saw, and thoughts about what was good and what was bad. Day 2 will be a "Coffee and Car Show" where we show off electric cars. We are still looking for sponsors.

Rob Wanless: Where is the venue?

Bud Annan: The event will be at SkySong. The tour busses will go to Gila Bend and other locations, then back.

Leisa Brug: If you are not on the email guest list, please give me, Michelle or Janet your card so we can make sure you get info about all these things. Next week in Tucson, at the AMC Arizona Mexico Commission event, on Thursday we are doing the 'Meeting the Energy Needs of the 21st Century', we are working with the Sonoran partners on this. We will be holding some round-table discussions with some VIPs. We are having a bus tour as well, going to see some sites, and the U of A Tech Park. We will be holding some round-table discussions with some VIPs. Pat Wood, III is the keynote speaker, who was the FERC Chair, and has a unique perspective because of his experiences in that role. He's going to talk about the nexus between Mexico and Arizona and talk about opportunities there. It will be nice to bring our Mexican counterparts here to show them some of our sites. There is a desire to learn about these projects because they share this same magnificent resource. We are trying our best to help them with efficiency measures and other measures to help them get to a point where we can really start doing some cross collaboration on some large scale projects, not just solar. They have been very receptive in learning about energy efficiency because they have a National Energy Standard that is very challenging for their states to accomplish, so the states and their Energy Offices and their Governors are working very, very hard to try to figure out how to meet that. The second day is the Plenary at the Marriott Starr Pass Resort. The Energy Committee is the newest committee to join the AMC and it began last year. If you would like to go to one or both days let us know, and we will get you in touch with Gloria and Olivia to make sure that you have the right info.

Ben Montclair: Sustainable Building Advisory Program is enrolling again in June. There will be two classes. One class is the full-length class which is 9 months, 100 hours, 1 weekend/month. The other class is probably more for folks who might be between jobs and is condensed into 18 weeks, 2 days every-other-week. The program is essentially to introduce people who own and build and design and manage buildings to the technologies and approaches that make for sustainability in the built environment.

Jamie Kern: ASU and University of New Mexico have teamed up to build the Solar Decathlon home. We are looking for an available lot to store it until the competition, less than 1000sqft. This year the contest is in Irvine, CA.

7. ADJOURNMENT

Leisa Brug adjourned at 3:44pm.

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